TORQ Analysis of Operations Research Analysts to Financial Analysts

INPUT SECTION:

Transfer	Title	O*NET	Filters			
From Title:	Operations Research Analysts	15-2031.00	Abilities:	Importance LeveL: 50	Weight: 1	
To Title:	Financial Analysts	13-2051.00	Skills:	Importance LeveL: 69	Weight: 1	
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1	

OUTPUT SECTION:

Grand TORQ:		83

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	96	Level	81	Level	71

Gaps To Narrow if Possible

Ability	Level	Gap	Impt
Near Vision	59	6	65
Speech Recognition	46	4	62

Upgrade These Skills

Skill	Level	Gap	Impt
Management of Financial Resources	74	20	77
Time Management	70	11	87
Monitoring	70	7	70

Knowledge to Add

Knowledge	Level	Gap	Impt
Economics and Accounting	79	31	89
English Language	70	17	83

LEVEL and IMPT (IMPORTANCE) refer to the Target Financial Analysts. GAP refers to level difference between Operations Research Analysts and Financial Analysts.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Operations Research Analysts	Financial Analysts	Importance
Written Comprehension	64	62	78
Oral Comprehension	64	59	75
Oral Expression	64	60	75
Written Expression	62	59	75
Deductive Reasoning	62	62	72
Inductive Reasoning	60	51	68
Near Vision	53	59	65

Description	Operations Research Analysts	Financial Analysts	Importance
Speech Clarity	46	46	65
Problem Sensitivity	57	55	62
Number Facility	66	55	62
Speech Recognition	42	46	62
Mathematical Reasoning	67	53	59
Fluency of Ideas	60	46	53
Information Ordering	55	51	53
Category Flexibility	57	48	53
Flexibility of Closure	51	48	50
Selective Attention	42	42	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Operations Research Analysts	Financial Analysts	Importance
Reading Comprehension	86	70	92
Time Management	59	70	87
Active Listening	76	69	85
Judgment and Decision Making	82	72	85
Mathematics	91	69	80
Critical Thinking	82	70	80
Complex Problem Solving	85	69	80
Management of Financial Resources	54	74	77
Active Learning	80	72	73
Writing	73	64	71
Monitoring	63	70	70

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Operations Research Analysts	Financial Analysts	Importance
Economics and Accounting	48	79	89
English Language	53	70	83
Mathematics	93	74	76

Experience & Education Comparison

Related Work Experience Comparison	Required Education Level Comparison

Description	Operations Research Analysts	Financial Analysts
10+ years	0%	16%
8-10 years	0%	1%
6-8 years	4%	15%
4-6 years	8%	13%
2-4 years	29%	38%
1-2 years	8%	1%
6-12 months	8%	1%
3-6 months	0%	0%
1-3 months	0%	0%
0-1 month	0%	0%
None	41%	11%

Description	Operations Research Analysts	Financial Analysts
Doctoral	12%	0%
Professional Degree	0%	0%
Post-Masters Cert	0%	0%
Master's Degree	70%	15%
Post-Bachelor Cert	0%	0%
Bachelors	16%	84%
AA or Equiv	0%	0%
Some College	0%	0%
Post-Secondary Certificate	0%	0%
High Scool Diploma or GED	0%	0%
No HSD or GED	0%	0%

Operations Research Analysts	Financial Analysts
Most Common Educational/Training Requirement:	
Master's degree	Bachelor's degree
Job Zone Comparison	
5 - Job Zone Five: Extensive Preparation Needed	4 - Job Zone Four: Considerable Preparation Needed
Extensive skill, knowledge, and experience are needed for these occupations. Many require more than five years of experience. For example, surgeons must complete four years of college and an additional five to seven years of specialized medical training to be able to do their job.	A minimum of two to four years of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.
A bachelor's degree is the minimum formal education required for these occupations. However, many also require graduate school. For example, they may require a master's degree, and some require a Ph.D., M.D., or J.D. (law degree).	Most of these occupations require a four - year bachelor's degree, but some do not.
Employees may need some on-the-job training, but most of these occupations assume that the person will already have the required skills, knowledge, work-related experience, and/or training.	Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Tasks

Operations Research Analysts

Core Tasks

Generalized Work Activities:

- Analyzing Data or Information - Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.

Financial Analysts

Core Tasks

Generalized Work Activities:

- Analyzing Data or Information - Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Processing Information - Compiling,

- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Processing Information - Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.

Specific Tasks

Occupation Specific Tasks:

- Analyze information obtained from management in order to conceptualize and define operational problems.
- Break systems into their component parts, assign numerical values to each component, and examine the mathematical relationships between them.
- Collaborate with others in the organization to ensure successful implementation of chosen problem solutions.
- Collaborate with senior managers and decision-makers to identify and solve a variety of problems, and to clarify management objectives.
- Define data requirements; then gather and validate information, applying judgment and statistical tests.
- Design, conduct, and evaluate experimental operational models in cases where models cannot be developed from existing data.
- Develop and apply time and cost networks in order to plan, control, and review large projects.
- Develop business methods and procedures, including accounting systems, file systems, office systems, logistics systems, and production schedules.
- Formulate mathematical or simulation models of problems, relating constants and variables, restrictions, alternatives, conflicting objectives, and their numerical parameters.
- Observe the current system in operation, and gather and analyze information about each of the parts of component problems, using a variety of sources.
- Perform validation and testing of models to ensure adequacy; reformulate models as necessary.
- Prepare management reports defining and evaluating problems and recommending solutions.
- Specify manipulative or computational methods to be applied to models.
- Study and analyze information about alternative courses of action in order to determine which plan will offer the best outcomes.

Detailed Tasks

coding, categorizing, calculating, tabulating, auditing, or verifying information or data.

- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

Specific Tasks

Occupation Specific Tasks:

- Analyze financial information to produce forecasts of business, industry, and economic conditions for use in making investment decisions.
- Assemble spreadsheets and draw charts and graphs used to illustrate technical reports, using computer.
- Collaborate with investment bankers to attract new corporate clients to securities firms.
- Contact brokers and purchase investments for companies, according to company policy.
- Determine the prices at which securities should be syndicated and offered to the public.
- Evaluate and compare the relative quality of various securities in a given industry.
- Interpret data affecting investment programs, such as price, yield, stability, future trends in investment risks, and economic influences.
- Maintain knowledge and stay abreast of developments in the fields of industrial technology, business, finance, and economic theory.
- Monitor fundamental economic, industrial, and corporate developments through the analysis of information obtained from financial publications and services, investment banking firms, government agencies, trade publications, company sources, and personal interviews.
- Prepare plans of action for investment based on financial analyses.
- Present oral and written reports on general economic trends, individual corporations, and entire industries.
- Recommend investments and investment timing to companies, investment firm staff, or the investing public.

Detailed Tasks

Detailed Work Activities:

- advise clients on financial matters
- analyze financial data
- analyze financial information to project future revenues or expense
- analyze market conditions

Detailed Work Activities:

- advise clients or customers
- advise governmental or industrial personnel
- analyze operational or management reports or records
- analyze scientific research data or investigative findings
- assist with business or managerial research
- collect scientific or technical data
- collect statistical data
- communicate technical information
- compile numerical or statistical data
- confer with research personnel
- create mathematical or statistical diagrams or charts
- design computer programs or programming tools
- develop management control systems
- develop mathematical ideas or interpretations
- develop mathematical simulation models
- develop or maintain databases
- develop records management system
- develop tables depicting data
- direct and coordinate scientific research or investigative studies
- evaluate management programs
- explain complex mathematical information
- follow statistical process control procedures
- make presentations
- obtain information from individuals
- perform statistical modeling
- plan scientific research or investigative studies
- prepare reports
- prepare reports for management
- prepare technical reports or related documentation
- program computers for management analysis applications
- program computers using existing software
- provide expert testimony on research results
- recommend further study or action based on research data
- resolve engineering or science problems
- select business applications for computers
- use computer application flow charts
- use computers to enter, access or retrieve data
- use cost benefit analysis techniques

- analyze scientific research data or investigative findings
- analyze social or economic data
- compile data for financial reports
- compute financial data
- conduct financial investigations
- create mathematical or statistical diagrams or charts
- evaluate degree of financial risk
- follow tax laws or regulations
- gather relevant financial data
- identify financial risks to company
- interpret charts or tables for social or economic research
- make presentations on financial matters
- perform general financial analysis
- prepare financial reports
- use computers to enter, access and retrieve financial data
- use knowledge of economic trends
- use spreadsheet software
- use statistical cost estimation methods

Technology - Examples

Analytical or scientific software

- Analyse-it Software
- Decisioneering Crystal Ball
- Genetic algorithm software
- Keypoint DataDesk
- Mathematical software
- Palisade Evolver
- Palisade StatTools
- Pattern recognition software
- SAS JMP
- The Mathworks MATLAB
- Ward Systems Group GeneHunter
- Ward Systems Group NeuralShell Predictor
- Wolfram Research Mathematica

Charting software

- Data visualization software
- Montgomery Investment Technology Utility XL
- TickQuest NeoTicker

Data base management system software

- use interpersonal communication techniques
- use knowledge of investigation techniques
- use library or online Internet research techniques
- use long or short term production planning techniques
- use mathematical or statistical methods to identify or analyze problems
- use object-oriented computer programming techniques
- use project management techniques
- use quantitative research methods
- use relational database software
- use scientific research methodology
- use spreadsheet software
- use statistical cost estimation methods
- use word processing or desktop publishing software
- write scholarly or technical research papers
- write technical specifications for computer systems, software or applications

Technology - Examples

Analytical or scientific software

- A mathematical programming language AMPL
- Business Forecast Systems Forecast Pro
- Claritas PRIZM NE
- ESRI ArcExplorer
- General algebraic modeling system GAMS
- Hyperion Solutions Hyperion Intelligence
- iGrafx software
- ILOG OPL-CPLEX Development System
- Imagine That Extend OR
- Insightful S-PLUS
- LINDO Systems LINGO
- Mesquite Software CSIM
- Mixed integer optimizer MINTO
- ProModel software
- Rockwell Automation Arena
- SAS software
- SPSS software

- Oracle software

Data base user interface and query software

- IBM Lotus Approach
- Microsoft Access

Enterprise resource planning ERP software

- SSA Global Infinium Financial Management

Expert system software

- Ivorix Neurostrategy Finance
- Matheny Pattern Forecaster Plus
- Neural network modeling software
- NeuroSolutions for MatLab

Financial analysis software

- Advanced Portfolio Technologies Report Builder
- Advanced Portfolio Technologies Simulator
- AnalyzerXL software
- Annuities analysis software
- Aspen Graphics software
- BizBench Benchmarking Software
- BizPricer Business Valuation Software
- Business Forecast Systems Forecast Pro
- DealMaven Comparable Company Valuation Analysis
- DealMaven M&A Accretion/Dilution One-Pager
- DealMaven Modeling ToolPack for Excel
- Derivatives Imagine Trading System
- Derivicom FinOptions XL
- Economic forecasting software
- Experian Credinomics
- Express Business Valuations
- Financial modeling software
- FinEng Solutions PerfoRM
- FinEng Solutions Quantis
- Fractal pattern analysis software
- Genetic algorithm optimization software

• Stanford Business Software MINOS	• Harland Financial Solutions DecisionPro
• Stanford Business Software SNOPT	• I-flex Solutions Reveleus Investment Performance Measurement
• Statistical software	• Innova Financial Solutions Derivatives Expert
• Telelogic System Architect	• Leading Market Technologies EXPO
• The Mathworks MATLAB	• Longview Consolidation
• The MathWorks Simulink	• Longview Solutions Khalix
• Wolfram Research Mathematica	• Market forecast software
Charting software	• MergerStat Control Premiums
• Microsoft Office Visio	• MergerStat Price to Earnings Ratios
Computer aided design CAD software	• Mid-Market Comps software
• Mathsoft Mathcad	• MoneySoft Corporate Valuation
Computer aided manufacturing CAM software	• Monte carlo simulation software
• Dassault Systemes CATIA software	• Montgomery Investment Technology Bonds XL
Data base management system software	• Montgomery Investment Technology Exotics XL
• MySQL software	• Montgomery Investment Technology FinTools
Data base reporting software	• Montgomery Investment Technology Options XL
• Business Objects Crystal Reports	• Montgomery Investment Technology QuoteTools
• Strategic Reporting Systems ReportSmith	• Montgomery Investment Technology Risk XL
Data base user interface and query software	• Montgomery Investment Technology SigTools
• Microsoft Access	• Moss Adams Profit Mentor
• Oracle software	• Mutual fund analysis software
• Structured query language SQL	• NeuroSolutions Trading Solutions
Development environment software	• OptionVue Options Analysis
• C	• Palisade Bond @nalyst
• Microsoft Visual Basic	• Peer-to-Peer Financial Analysis
Map creation software	• Pi Blue OptWorks Excel
• ESRI ArcGIS software	• Portfolio management software
• Microsoft MapPoint	• Pricing software
Object or component oriented development software	• Quantifying marketability discount QMD modeling software
• C++	• RiskMetrics Group WealthBench
• R	• Securities analysis software
• Sun Microsystems Java	
• Sybase PowerBuilder	
Office suite software	
• Microsoft Office	
Presentation software	

• Microsoft PowerPoint	• Spreadware Business Financial Analysis
Project management software	• Spreadware Business Valuator
• Microsoft Project	• Spreadware Pro Forma
Spreadsheet software	• Steele Mutual Fund and Variable Annuity Expert
• Microsoft Excel	• SunGard BancWare
Word processing software	• SunGard Kiodex Risk Workbench
• Microsoft Word	• TechHackers Convertible Bond @nalyst
Tools - Examples	• TechHackers Credit @nalyst
• Desktop computers	• TechHackers Exotic @nalyst
• Mainframe computers	• TechHackers Financial @nalyst
• Laptop computers	• TechHackers IRO @nalyst
• Personal computers	• TechHackers MBS @nalyst
	• TechHackers Swap @nalyst
	• Tetrahex Fractal Finance
	• Tips Standard Securities Calculation Bond Analytics Module
	• Tips Standard Securities Calculation Mortgage-Backed Analytics Module
	• Trendsetter Software ProAnalyst
	• Unlimited Learning Resources Valusource Pro
	• ValuSource BIZCOMPS
	• Whitebirch Software Projected Financials
	• Wolfram Research Derivatives
	• Wolfram Research Mathematica Finance Essentials
	• Wolfram Research Mathematica UnRisk Pricing Engine
	Information retrieval or search software
	• dailyVest Investment Personalization Platform
	• TradeTools Financial Market Databases
	• TradeTools Monthly U.S. Economic Database
	• Ward Systems Group NeuroShell Trader
	Presentation software
	• DealMaven PresLink for PowerPoint and Word
	• Microsoft PowerPoint
	Spreadsheet software

- Apple AppleWorks

- Corel QuattroPro

- IBM Lotus 1-2-3

- Microsoft Excel

- Spreadsheet software

Word processing software

- Microsoft Word

- Report generation software

Tools - Examples

- 10-key calculators

- Desktop computers

- Notebook computers

- Personal computers

- Personal digital assistants PDA

- Tablet computers

Labor Market Comparison

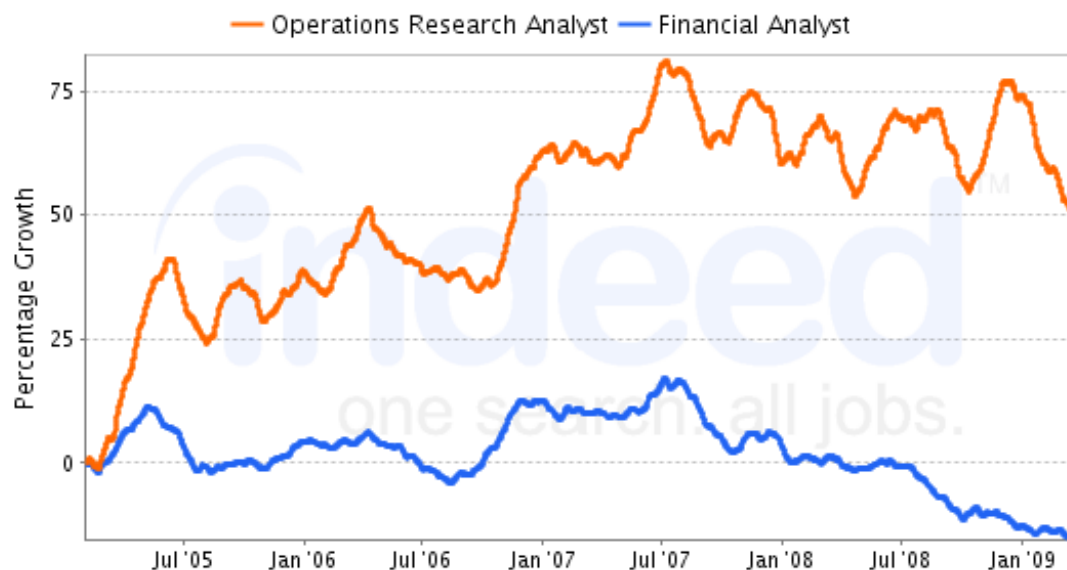| Description	Operations Research Analysts	Financial Analysts	Difference
Median Wage	$ 64,140	$ 71,380	$ 7,240
10th Percentile Wage	$ 41,690	$ 42,650	$ 960
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	$ 75,720	$ 86,220	$ 10,500
90th Percentile Wage	$ 87,250	$107,560	$ 20,310
Mean Wage	$ 63,700	$ 73,130	$ 9,430
Total Employment - 2007	180	210	30
Employment Base - 2006	187	243	56
Projected Employment - 2016	210	268	58
Projected Job Growth - 2006-2016	12.3 %	10.3 %	-2.0 %
Projected Annual Openings - 2006-2016	6	4	-2

National Job Posting Trends

Trend for Operations Research Analysts	Trend for Financial Analysts

Job Trends from Indeed.com

— Operations Research Analyst — Financial Analyst

Data from Indeed

Recommended Programs

Accounting and Finance

Accounting and Finance. An integrated or combined program in accounting and finance that prepares individuals to function as accountants and financial managers or analysts.

Institution	Address	City	URL
University of Southern Maine	96 Falmouth St	Portland	www.usm.maine.edu

Accounting and Business/Management

Accounting and Business/Management. An integrated or combined program in accounting and business administration/management that prepares individuals to function as accountants and business managers.

No schools available for the program

Finance, General

Finance, General. A program that generally prepares individuals to plan, manage, and analyze the financial and monetary aspects and performance of business enterprises, banking institutions, or other organizations. Includes instruction in principles of accounting; financial instruments; capital planning; funds acquisition; asset and debt management; budgeting; financial analysis; and investments and portfolio management.

Institution	Address	City	URL
Husson College	One College Circle	Bangor	www.husson.edu
Saint Josephs College	278 Whites Bridge Rd	Standish	www.sjcme.edu
Thomas College	180 W River Rd	Waterville	www.thomas.edu

Financial Planning

Financial Planning and Services. A program that prepares individuals to plan and manage the financial interests and growth of individuals and institutions. Includes instruction in portfolio management, investment management, estate planning, insurance, tax planning, strategic investing and planning, financial consulting services, and client relations.

Institution	Address	City	URL

University of Maine at Augusta	46 University Dr	Augusta	www.uma.maine.edu/
University of Maine at Augusta	46 University Dr	Augusta	www.uma.maine.edu/

International Finance

International Finance. A program that prepares individuals to manage international financial operations and related currency transactions. Includes instruction in international banking, international monetary and financial policy, money and capital markets, foreign exchange, risk analysis, and international cash flow operations.

No schools available for the program

Investments and Securities

Investments and Securities. A program that prepares individuals to manage assets placed in capital markets, and related technical operations. Includes instruction in security analysis, debt and equity analysis, investment strategies, securities markets, computer-assisted research, portfolio management, portfolio performance analysis, and applications to specific investment problems and business situations.

No schools available for the program

Maine Statewide Promotion Opportunities for Operations Research Analysts

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
15-2031.00	Operations Research Analysts	100	5	180	$64,140.00	$0.00	12%	6
13-2051.00	Financial Analysts	83	4	210	$71,380.00	$7,240.00	10%	4
15-1032.00	Computer Software Engineers, Systems Software	83	4	290	$73,410.00	$9,270.00	11%	8
19-2012.00	Physicists	82	5	50	$93,210.00	$29,070.00	-4%	1
11-3021.00	Computer and Information Systems Managers	80	5	870	$83,130.00	$18,990.00	8%	21
17-2112.00	Industrial Engineers	80	4	580	$68,350.00	$4,210.00	11%	22
17-2071.00	Electrical Engineers	80	4	260	$73,050.00	$8,910.00	-10%	6
17-2131.00	Materials Engineers	80	4	40	$70,250.00	$6,110.00	-7%	1
17-2121.02	Marine Architects	80	4	60	$75,520.00	$11,380.00	-9%	1
13-2052.00	Personal Financial Advisors	79	3	360	$94,100.00	$29,960.00	10%	13
17-2141.00	Mechanical Engineers	79	4	620	$67,210.00	$3,070.00	-9%	14
19-2043.00	Hydrologists	79	5	130	$71,270.00	$7,130.00	16%	5
17-2041.00	Chemical Engineers	78	4	170	$81,330.00	$17,190.00	-17%	5

| 11-9121.00 | Natural Sciences Managers | 78 | 5 | 180 | $79,810.00 | $15,670.00 | 8% | 5 |
| 11-9041.00 | Engineering Managers | 77 | 5 | 720 | $91,030.00 | $26,890.00 | -2% | 14 |

Top Industries for Financial Analysts

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Other financial investment activities	523900	12.23%	26,970	43,500	61.29%
Management of companies and enterprises	551100	10.11%	22,307	28,287	26.81%
Securities and commodity contracts, brokerages, and exchanges	5231-2	9.55%	21,064	37,617	78.59%
Self-employed workers, primary job	000601	7.82%	17,254	22,058	27.84%
Depository credit intermediation	522100	7.68%	16,950	19,010	12.15%
Accounting, tax preparation, bookkeeping, and payroll services	541200	3.87%	8,546	11,149	30.46%
Management, scientific, and technical consulting services	541600	3.32%	7,315	14,366	96.38%
Computer systems design and related services	541500	2.05%	4,532	6,731	48.52%
Direct insurance (except life, health, and medical) carriers	524120	1.99%	4,386	5,043	14.98%
Other nondepository credit intermediation, including real estate credit and consumer lending	522290	1.77%	3,914	4,225	7.93%
General medical and surgical hospitals, public and private	622100	1.53%	3,376	4,112	21.78%
Colleges, universities, and professional schools, public and private	611300	1.44%	3,184	3,918	23.06%
Computer and peripheral equipment manufacturing	334100	1.29%	2,837	2,043	-28.00%
State government, excluding education and hospitals	929200	1.25%	2,755	2,974	7.94%
Other investment pools and funds	525900	1.20%	2,638	4,074	54.45%

Top Industries for Operations Research Analysts

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Management, scientific, and technical consulting services	541600	9.10%	5,311	9,058	70.57%
Computer systems design and related services	541500	8.26%	4,822	6,221	29.00%
State government, excluding education and hospitals	929200	6.33%	3,695	3,464	-6.24%
Federal government, excluding postal service	919999	6.31%	3,682	2,993	-18.71%

Management of companies and enterprises	551100	5.97%	3,484	3,837	10.14%
Depository credit intermediation	522100	4.87%	2,840	2,766	-2.59%
Data processing, hosting, and related services	518200	3.95%	2,303	2,974	29.16%
Wired telecommunications carriers	517100	2.41%	1,409	1,057	-24.99%
Research and development in the physical, engineering, and life sciences	541710	2.40%	1,402	1,429	1.93%
Local government, excluding education and hospitals	939300	2.19%	1,275	1,369	7.33%
Professional and commercial equipment and supplies merchant wholesalers	423400	2.14%	1,246	1,388	11.37%
Colleges, universities, and professional schools, public and private	611300	2.10%	1,227	1,311	6.89%
Other nondepository credit intermediation, including real estate credit and consumer lending	522290	1.99%	1,164	1,333	14.58%
Securities and commodity contracts, brokerages, and exchanges	5231-2	1.84%	1,076	1,505	39.85%
General medical and surgical hospitals, public and private	622100	1.77%	1,035	1,094	5.78%